

Evaluating Environmental Effects on Growth Performance and Carcass Characteristics of South African Large White Pigs

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ABSTRACT Genetic improvement of growth and carcass traits and animal management require proper identification and evaluation of non-genetic effects on these traits. Performance data were on 20079 Large White pigs from 29 herds, while carcass data comprised of 5406 records from 20 herds. The animals were tested between 1990 and 2008 and carcass evaluated between 1993 and 2007. The traits analyzed were backfat thickness (BFAT), test period gain (TPG), lifetime gain (LTG), feed conversion ratio (FCR) age at slaughter (AGES), lean percentage (LEAN), drip-free lean percentage (DLEAN), drip loss (DRIP), dressing percentage (DRESS), carcass length (CRLTH) and eye muscle area (AREA). PROC REG and GLM were used to determine significant effects. Herd of origin, year of testing and their interaction significantly affected all traits. Most traits were not affected by season of testing, while all traits were significantly affected by sex. Testing environment affected all growth traits except for LTG. All traits decreased with increasing feed intake, while age at the start of the test was associated with decreases in most traits. On-test treatments do not compensate for pre-test underperformance. Castrates produce higher carcass yields of less quality than females, while performance testing has best results when done at the testing centres in summer. There is need to adjust for fixed effects when performing genetic evaluations in these pig populations.